Chapter 2
WATER SUPPLY PLANNING PROCESS

PLANNING PROCESS COMPONENTS

The planning process used for creation of this water supply plan can be generally divided into three broad components: assembling background information, issue identification and analysis, and solution development (**Figure 2**). Public participation was ongoing throughout the planning process, from gathering background information from local governments to holding advisory committee meetings where water supply issues and potential water supply alternatives were explored. The goals and objectives established by staff and the advisory committee provided the overall framework for the planning process.

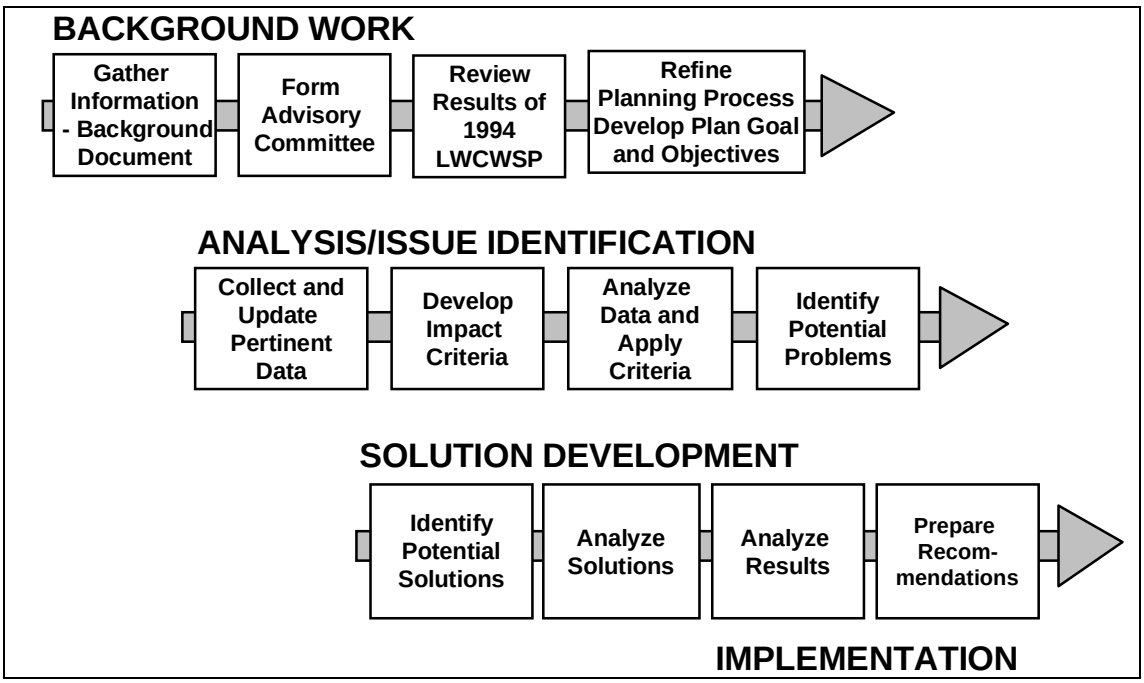

Figure 2. The Lower West Coast Planning Process Components.

Background Component

Background Information

The District project team initially compiled extensive background information required for informed decision making later in the process. This background information included pertinent statutes and technical documents, historical information, rainfall data, land use and population information, water use demand projections, hydrogeologic and water resource information, water use permit information, details of utilities in the LWC Planning Area, environmental information, and alternative water supply source concepts. The urban water use demand projections were based on population projections published

by the Bureau of Economic Business Research (BEBR), while agricultural demand projections were based primarily on long-term historical trends. All of this information was then consolidated into a draft LWC Water Supply Plan Support Document and Appendices in May and August 1999, respectively, to be used by the project team and advisory committee members. As the planning process ensued, these documents were updated where new information became available.

Advisory Committee Formation

A 47-member advisory committee, with approximately the same number of alternate members, was created to obtain public participation in the planning process. Membership included representatives of federal, state and local agencies, public water supply utilities, the local business community, environmental concerns, community leadership, and agricultural concerns. A member of the District's Governing Board chaired the advisory committee. All advisory committee meetings were advertised and open to the public.

The primary role of the advisory committee, as well as the general public, was to provide input at each stage of the water supply planning process, to contribute local knowledge and the expertise of the agencies being represented, and to reflect the collective concerns and interests of various stakeholders in the LWC Planning Area. The role of District staff was to facilitate the planning process, provide professional and technical direction, support and guidance, and prepare the LWC Planning Document recognizing the advisory committee's input.

The advisory committee spent several meetings on background presentations and sharing of information, along with development of the plan's vision, goal, and objectives (a listing of the plan goals is provided in Chapter 1). The goal and objectives established by the advisory committee served as a "road map" for the subsequent planning process. Topics scheduled for advisory committee discussion, research and analytical work, and formulation of final recommendations all centered on these goals. The advisory committee met a total of 17 times between December 1998 and April 2000.

In addition to regular advisory committee meetings, one technical workshop was conducted to respond to questions related to the ground water modeling associated with renewal of CUPs in the LWC Planning Area. Three minimum flow and level technical sessions were also conducted in concert with the advisory committee.

Analysis and Issue Identification

The following methods and sources were used and consulted during the analysis and issue identification phase of the development of this plan:

- Review of the analysis and issue identification results from the 1994 LWC Water Supply Plan

- Review of consumptive use permitting activities and related data that has occurred since the acceptance of the 1994 LWC Water Supply Plan
- Extensive review and input from the advisory committee
- Data and results from the Caloosahatchee Water Management Plan
- Use of issue areas

1994 LWC Water Supply Plan

The 1994 LWC Water Supply Plan incorporated regional ground water modeling as part of the analysis. The assumptions and demand projections used in this analysis were reviewed and compared to current information. The results of this comparison concluded that the population and demand projections of the 1994 LWC Water Supply Plan for 2010 are very similar to those projected for 2020. This similarity in projected demands was primarily due to a decrease in the rate of growth in the area. In addition, the 1994 LWC Water Supply Plan simulated a 1-in-10 drought event and used the same resource protection criteria that are appropriate today. Based on this, staff and the advisory committee recognized the findings and conclusions of the 1994 LWC Water Supply Plan as still representative of the issues in meeting the LWC Planning Area's projected water demands for 2020; and, the 1994 findings should be considered in the development of this 2000 Plan.

Consumptive Use Permitting Activities

The LWC Planning Area has experienced substantial growth since the completion of the 1994 LWC Water Supply Plan. Much of this growth has been represented through the District’s consumptive use permitting (CUP) process. This process involves the review and consideration of large amounts of data directly related to water use and demands in the LWC Planning Area. These data include water demand projections, population projections, preferred water supply sources and treatment techniques, and geographic service areas. These data are directly related to the update of the LWC Water Supply Plan. Therefore, this information was brought into the planning process for review and consideration during the analysis and issue identification phase.

Input from the Advisory Committee

The LWC Water Supply Plan advisory committee consisted of a wide variety of water supply experts representing agriculture, the environment, and public water supply. These experts were constantly consulted and involved in the analysis and issue identification process of the plan. One entire meeting of the advisory committee was dedicated to technical presentations by members of the advisory committee related to the future needs and sources of water in the LWC Planning Area. This information played a critical role in the analysis and issue identification phase of the LWC Water Supply Plan.

Caloosahatchee Water Management Plan

Surface water availability and other issues related to the Caloosahatchee Basin were also addressed in development of the Caloosahatchee Water Management Plan (CWMP). The results of that effort have been incorporated into this plan. The CWMP is discussed in the Coordination section later in this chapter.

Issue Areas

The LWC Planning Area was divided into eight "issue" areas based on existing and future land use, historically used sources of water, projected water demands, and anticipated resource constraints using the methods and sources described above. Using this knowledge, the advisory committee and staff identified the issues within each issue area. These issues were used as the basis for discussion in the solution development component of the process.

Solution Development

Once potential problems/issues were identified, a series of water source options (also referred to as water supply alternatives) were identified and evaluated to determine their effectiveness in resolving the potential problems. Options included increased water conservation, alternative water sources (e.g., reclaimed water, Floridan aquifer), surface water storage, and other approaches that would serve to maximize water resources.

The advisory committee and staff then translated preferred options into recommendations. These advisory committee recommendations were further refined into implementable strategies for the LWC Planning Area. Recommendations are presented in Chapter 6.

The final product of the planning process is the LWC Water Supply Plan. The LWC Water Supply Plan documents the results of the planning process and provides recommendations and strategies for implementation.

PLAN IMPLEMENTATION

Implementation is one of the most important phases of the LWC Water Supply Plan, in that strategies developed during the planning process are actually carried out to ensure adequate water supply through 2020. Implementation will follow approval of the plan by the SFWMD Governing Board, and will involve coordination with other agencies and planning efforts, and the strengthening of linkages between land use and water supply planning. Other components of implementation may include additional data collection, research, cost-share projects, capital construction, and rulemaking when regulatory criteria are changed. Specific plan implementation strategies are discussed in Chapter 6. After approval by the SFWMD Governing Board, this plan will be updated at least once every five years.

COORDINATION

Development of the LWC Water Supply Plan was coordinated with several other planning efforts in the region, as well as with many other entities, to ensure an integrated approach and compatibility with local and regional plans. In addition, the LWC Water Supply Plan will be incorporated into the SFWMD District Water Management Plan (DWMP), which is intended to provide comprehensive long-range guidance for the actions of the water management district in implementing its responsibilities in state and federal laws.

Related Planning Efforts

There are several related water management planning efforts ongoing or planned in the LWC Planning Area. Each plan or study addresses unique water management issues while maintaining close relationships with water supply planning (**Table 1**). These efforts include the Caloosahatchee Water Management Plan (CWMP), the Caloosahatchee River and Estuary and LWC Aquifer System Minimum Flows And Level development, the Central and Southern Florida (C&SF) Comprehensive Review Study, and the Southwest Florida Study.

The CWMP is being developed to create a framework for future surface water use decisions to provide adequate surface water for uses within the Caloosahatchee Basin. The CWMP estimates future agricultural and urban surface water needs of this basin, weighs those against available supplies, and identifies areas where these demands cannot be met without harming the resource or the environment. The CWMP includes recommendations to address any surface water deficits. Inflows to the Caloosahatchee Estuary using the salinity envelope concept are incorporated in this study.

Establishment of a minimum flow and level (MFL) for the Caloosahatchee River and Estuary, and the LWC aquifer system are underway. A MFL is a limit (flow or water level) at which further withdrawals would significantly harm the water resources of the area. MFLs are primarily quantitative, not qualitative measures. Both the Caloosahatchee Estuary and the LWC aquifer system (includes the water table, lower Tamiami, Sandstone, mid-Hawthorn aquifers, and the Floridan aquifer) are incorporated in the District's MFL priority list for establishment of MFLs, based on the requirements of Chapter 373, F.S. The District has committed to establishing a MFL for each of these by the end of 2000.

The Central and Southern Florida Project Comprehensive Review Study (Restudy) was a five year effort that looked at modifying the current C&SF Project to restore the greater Everglades and South Florida ecosystem while providing for the other water-related needs of the region. The study concluded with the Comprehensive Plan being presented to the Congress on July 1, 1999. The recommendations made within the Restudy, that is, structural and operational modifications to the C&SF Project, are being further refined and will be implemented in the Comprehensive Everglades Restoration Plan (CERP).

Table 1. Lower West Coast Related Water Management Planning Efforts.

Plan	Scope/Primary Goal	Relationship to LWCWSP	Timeframes
Caloosahatchee Water Management Plan	Water supply / availability from Caloosahatchee River	Subregional component of the LWCWSP	Completed April 2000
Lake Okeechobee SWIM Plan	Protection and enhancement of Lake Okeechobee and its watershed (water quality)	Backflow/inflow from C-43 Canal	Update completed 1997
Lake Okeechobee Regulation Schedule Environmental Impact Study	Evaluates environmental and economic impacts associated with proposed Lake Okeechobee. Regulation Schedules (quantity)	Discharges from Lake Okeechobee to Caloosahatchee Estuary	1999
Central and Southern Florida Project Comprehensive Review Study (Restudy)	Comprehensive review of environmental impacts of C&SF project	Discharges from Lake Okeechobee to Caloosahatchee River	Completed 1999
Charlotte Harbor National Estuary Program Comprehensive Conservation and Management Plan	USEPA program for restoration	- Supports activities to enhance the Caloosahatchee Estuary - Creates framework to identify funding sources and support partnering	1999
Lower East Coast Regional Water Supply Plan	Adequate and reliable water supply for the Lower East Coast, for natural systems, and Lake Okeechobee service area	Quantify current and future demands and supplies, including surface water in the Caloosahatchee watershed	Draft Plan Completed 1997 Interim Plan 1998 Final Plan 2000
Caloosahatchee River and Estuary Minimum Flow and Level	Prevent significant harm to the water resources and ecology of the Caloosahatchee Estuary	Recovery or prevention strategy has potential to alter future water management activities, including water use	2000
LWC Aquifer System Minimum Flow and Level	Prevent significant harm to the LWC aquifers	Has potential to alter future water management activities, including water use	2000

The Restudy includes all of the area of the C&SF Project with the exception of the upper St. Johns River Basin. The area encompasses approximately 18,000 square miles from Orlando to Florida Bay. Major areas include the Kissimmee River, Lake Okeechobee, St. Lucie and Caloosahatchee Estuaries, Everglades Agricultural Area, Water Conservation Areas, Upper and Lower East Coast, Lower West Coast, Everglades National Park, Big Cypress National Preserve, and Florida Bay. The Kissimmee River, Lake Okeechobee, and the Everglades are the dominant watersheds that connect a mosaic of wetlands, uplands, and coastal and marine areas. The Restudy includes an evaluation of the water demands on Lake Okeechobee, including the C-43 Basin, and regulatory discharges. The Restudy Report was submitted to Congress in July 1999 for approval. The Restudy is being implemented through the Comprehensive Everglades Restoration Plan (CERP).

The Southwest Florida Study, formally the Southwest Florida Feasibility Study, is a cooperative effort by USACE and SFWMD and has been initiated as a result of the Restudy. The purpose of the study is to describe and evaluate alternative plans to address Southwest Florida water resource problems and to develop a comprehensive plan for the

system. The Southwest Florida Study will include traditional features such as navigation, shoreline erosion, flood control, and the enhancement of water supplies, as well as environmental restoration features.

Effective coordination among these mutually dependent studies was a priority throughout the water supply planning process. Project managers from each of these plans worked together to identify opportunities to address multiple water management concerns with comprehensive solutions and to minimize duplicative efforts. Several LWC Water Supply Plan advisory committee members also served on the CWMP advisory committee.

Local and Regional Governments

District staff coordinated development of the LWC Water Supply Plan with the local governments and other entities in the LWC Planning Area. In addition to participation on the advisory committee, local governments and water users have provided information on their activities as well as have reviewed information and products generated for the LWC Water Supply Plan including population projections, urban and agricultural demand projections, and future facilities plans. This involvement has provided compatibility between the LWC Water Supply Plan and local plans.